BOOK REVIEW

Mass Spectrometry: Clinical and Biomedical Applications, Volume 2

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This book is the second of two volumes entitled *Mass Spectrometry: Clinical and Biomedical Applications*, edited by Dominic Desiderio. This recent addition to the Plenum Press *Modern Analytical Chemistry* series does not depend on Volume 1 for continuity of subject or background material and could be separately added to one's library on the basis of its specific content. The book is a blend of fundamentals, literature review, methodology, and reference resource that is geared to readers with at least a general knowledge of mass spectrometry

The first chapter, Mass Spectrometry: Instrumentation and Techniques, was written by Chhabil Dass of the University of Tennessee–Memphis. This chapter touches on essentially all major areas of ionization and mass analysis, helping readers who are not mass spectrometrists to become aware of the increasingly powerful techniques available for biomedical research.

A chapter on Characterization of Diacylglycerylphospholipids by Fast Atom Bombardment Tandem Mass Spectrometry by Douglas Gage and coauthors Zhi-Heng Huang and Charles Sweeley at Michigan State comes next. This section serves as a useful tutorial because of its inclusion of representative reference spectra and discussion of general principles of phospholipid fragmentation.

There are two chapters on nucleic acids in this volume. Chapter 3, DNA Modifications: Investigations by Mass Spectrometry, was written by Curt Norwood of the EPA Environmental Research Laboratory in Rhode Island and Paul Vouros at Northeastern University in Boston. This survey of the variety of methods that can be utilized for nucleic acid characterization deals mainly with individual nucleosides and emphasizes the information content as well as sensitivity considerations for each technique. Analysis of Urinary Nucleosides by Thomas McClure and Karl Schram of the University of Arizona in Tucson is Chapter 5. A wealth of information is presented here, including structures, fragmentation and detailed methodology. Especially valuable is the authors' approach of leading the reader through the identification of several "unknowns," thereby helping others in the future solution of real problems.

Somewhat more clinically oriented is the contribution of Cedric Shackleton and Ewa Witkowska from Children's Hospital Oakland Research Institute, entitled Mass Spectrometry in the Characterization of Variant Hemoglobins. This section also contains extensive methodological detail, with numerous examples of the way mass spectrometry has been used to identify clinically relevant abnormal hemoglobins.

The final chapter, Microdialysis/Mass Spectrometry, by Per Andrén, Shen-Nan Lin, and Richard Caprioli of the University of Texas Medical School in Houston, illustrates the exciting potential of mass spectrometry for direct, highly sensitive measurement of endogenous and xenobiotic compounds. With background information on the mechanics of microdialysis and examples taken from the authors' laboratory, the reader gains insight into an emerging analytical technique.

In conclusion, this book contains in-depth coverage on selected topics of biomedical mass spectrometry. It is recommended as a good starting point for investigators who are expanding their research interests in new directions.

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